

Eureka Math™ Homework Helper

2015–2016

Grade 2 Module 4 *Lessons 1–28*

Eureka Math, A Story of Units®

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G2-M4-Lesson 1

1. Complete each more or less statement.

- 1 less than 46 is **45**.
- 48 is 10 more than **38**.
- 63** is 10 less than 73.
- 39 is 1 **less than** 40.

I can use place value language to explain the change. 1 more and 10 more are the same as adding. 1 less and 10 less are the same as subtracting.

2. Complete each pattern, and write the rule.

- 33, 34, **35, 36**, 37 Rule: **1 more**
- 43, **33**, 23, **13**, 3 Rule: **10 less**
- 43, 42**, 41, 40, **39** Rule: **1 less**

I study the numbers and look for the more or less pattern. I know 34 is 1 more than 33, so the rule is 1 more.

40 is 1 less than 41, so the rule is 1 less.

3. Label each statement as true or false.

- 1 more than 43 is the same as 1 less than 45. **True**.
- 10 less than 28 is the same as 1 more than 16. **False**.

I know 1 more than 43 is 44, and 1 less than 45 is 44, so this statement is true.
10 less than 28 is 18, and 1 more than 16 is 17, so this statement is false.

4. Below is a chart of fruit in Gloria's basket.

Use the following to complete the chart.

- Gloria has 1 more banana than the number of apples.
- Gloria has 10 fewer oranges than the number of pears.

I can use what I know about number patterns to complete the chart. 1 more than 19 is 20, so there are 20 bananas. 10 fewer than 21 is 11, so there are 11 oranges.

Fruit	Number of Fruit
Apples	19
Pears	21
Bananas	20
Oranges	11

G2-M4-Lesson 2

1. Solve using place value strategies. Use the arrow way, number bonds, or mental math, and record your answers.

a. $48 + 30 = 78$

$$\begin{array}{r} / \backslash \\ 40 \ 8 \end{array}$$

$$\begin{array}{l} 40 + 30 = 70 \\ 70 + 8 = 78 \end{array}$$

To solve $48 + 30$, I think 30 more than 48. I just add like units! $30 + 40 = 70$, and $70 + 8 = 78$. I can draw a number bond to show my thinking.

b. $27 + 20 = 47$

$$27 \xrightarrow{+20} 47$$

To solve $27 + \underline{\quad} = 47$, I count by tens from 27 to 47. I can use the arrow way to show my thinking.

2. Find each sum. Then use $>$, $<$, or $=$ to compare.

a. $43 + 20 < 30 + 53$

b. $29 + 50 > 40 + 19$

20 more than 43 is 63, and 30 more than 53 is 83, so 63 is less than 83.

3. Solve using place value strategies.

a. $35 - 20 = 15$

b. $46 - 20 = 26$

I can draw or solve in my head using place value thinking. 3 tens 5 ones – 2 tens is 1 ten 5 ones, so $35 - 20 = 15$.

4. Complete each more than or less than statement.

a. 30 less than 78 is **48**.

b. 45 more than 30 is **75**.

c. 20 less than **68** is 48.

d. 40 more than **22** is 62.

To solve, I just add like units! 45 more than 30 is the same as $45 + 30$. $40 + 30 = 70$, and $70 + 5 = 75$.

20 less than what number is 48? I can count on to solve! 48, 58, 68. 20 less than 68 is 48.

5. There were 53 papers in the bin after math class. There were 20 papers in the bin before math class. How many papers were added during math class? Use the arrow way to show your simplifying strategy.

$$20 \xrightarrow{+10} 30 \xrightarrow{+10} 40 \xrightarrow{+10} 50 \xrightarrow{+3} 53$$

33 papers were added to the bin during math class.

I can start at 20 and count on by tens to 50, and then just add 3 ones to get to 53.

G2-M4-Lesson 3

1. Solve using the arrow way.

a. $48 + 30 = 78$

$$48 \xrightarrow{+30} 78$$

I can use the arrow way to show my thinking. 30 more than 48 is 78. I just add like units, 4 tens plus 3 tens is 7 tens. The 8 ones stay the same.

$48 + 31 = 79$

$$48 \xrightarrow{+30} 78 \xrightarrow{+1} 79$$

To add 31, I add 3 tens, and then just add 1 more.

$48 + 29 = 77$

$$48 \xrightarrow{+30} 78 \xrightarrow{-1} 77$$

Adding 29 is adding 1 less than 30. I add 3 tens, and then just take 1 away.

b. $57 - 40 = 17$

$$57 \xrightarrow{-40} 17$$

40 less than 57 is 17. I just subtract like units. 5 tens minus 4 tens is 1 ten. The 7 ones stay the same.

$57 - 41 = 16$

$$57 \xrightarrow{-40} 17 \xrightarrow{-1} 16$$

To subtract 41, I subtract 4 tens and then just subtract 1 one.

$57 - 39 = 18$

$$57 \xrightarrow{-40} 17 \xrightarrow{+1} 18$$

Subtracting 39 is subtracting 1 less than 40. I subtract 4 tens and then just add 1 one.

The first problem, $57 - 40$, helps me solve the last problem, $57 - 39$. Subtracting 40 is easy, but that's 1 more than I'm supposed to take away, so I have to add 1 back, which means the answer is 18.

2. Solve using the arrow way, number bonds, or mental math.

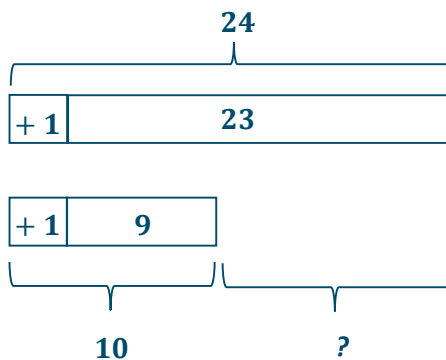
$$\begin{array}{r} 43 + 20 = 63 \\ \swarrow \searrow \\ 40 \quad 3 \end{array}$$

I can solve mentally, in my head! 20 more than 43 is 63. A number bond is another way I can show how I add like units.

G2-M4-Lesson 4

1. Solve. Draw and label a tape diagram to subtract 10, 20, 30, 40, etc.

$$23 - 9 = 24 - 10 = 14$$



It is easier to subtract a multiple of 10. 9 is very close to 10; it just needs 1 more. I can add 1 to both numbers to make it easier to subtract, and the difference will not change. A tape diagram helps me show my strategy.

2. Solve. Draw a number bond to add 10, 20, 30, 40, etc.

$$38 + 53 = 40 + 51 = 91$$

$$\begin{array}{r} \diagup \diagdown \\ 2 \ 51 \end{array}$$



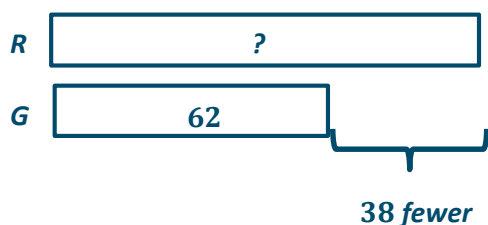
It is easier to add a multiple of 10. 38 is very close to a 40, it just needs 2 more. I can break apart 53 into 2 and 51 to get the 2 out. 38 plus 2 is 40. Now I just add what is left; 40 plus 51 is 91.

I can also show this with a tape diagram! This helps me see that if I take 2 from 53 and give it to 38, I get 40 + 51.

G2-M4-Lesson 5

Solve and show your strategy.

1. There are 38 fewer green apples in the orchard than red apples. There are 62 green apples in the orchard. How many red apples are there?



$$\begin{array}{r} 62 + 38 = 100 \\ 2 \end{array}$$

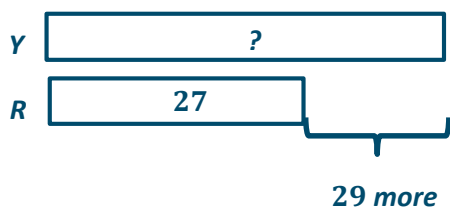
$$\begin{array}{l} 38 + 2 = 40 \\ 60 + 40 = 100 \\ \text{There are 100 red apples.} \end{array}$$

I use the RDW process to solve. After reading, I think about what I can draw that will help me solve. A tape diagram helps me see the parts that I know. I know there are 38 fewer green apples than red, so that means there are more red apples, 38 more. I add to find the number of red apples.

I used the make ten strategy to solve!

2. Oscar has two baskets of toys. The red basket has 27 toys. The yellow basket has 29 more toys than the red basket.

- a. How many toys are in the yellow basket?

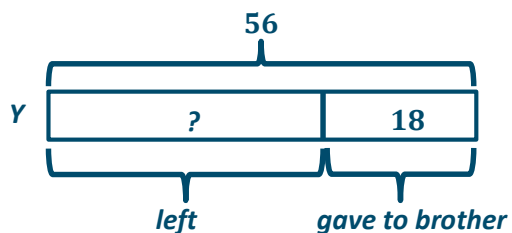


$$\begin{array}{r} 27 + 29 = 56 \\ 7 \end{array}$$

$$\begin{array}{l} 29 + 1 = 30 \\ 26 + 30 = 56 \\ \text{The yellow basket has 56 toys.} \end{array}$$

The yellow basket has 29 more than the red basket. I add to find 29 more than 27. I can use the make ten strategy here, too!

- b. Oscar gave 18 toys from the yellow basket to his younger brother. How many toys are left in the yellow basket?



$$56 - 18 = 38$$

$$\begin{array}{r} 56 \\ - 18 \\ \hline 36 \end{array} \quad \begin{array}{r} 20 \\ - 18 \\ \hline 2 \end{array}$$

There are 38 toys left in the yellow basket.

G2-M4-Lesson 6

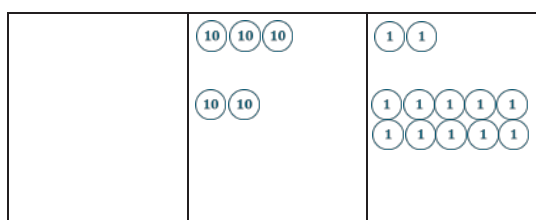
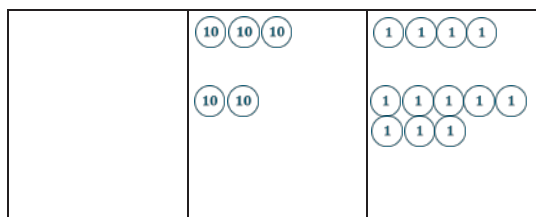
1. Solve the following problems using your place value chart and place value disks. Compose a ten, if needed. Think about which ones you can solve mentally, too!

$34 + 25 = \underline{59}$

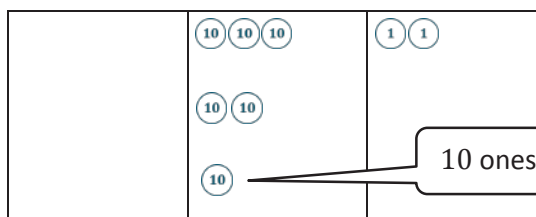
I can solve this one mentally! I just add like units. 3 tens and 2 tens is 5 tens. 4 ones and 5 ones is 9 ones. Altogether that makes 5 tens 9 ones, or 59.

$34 + 28 = \underline{62}$

I can use my chart and place value disks to solve this problem.



I made a ten!

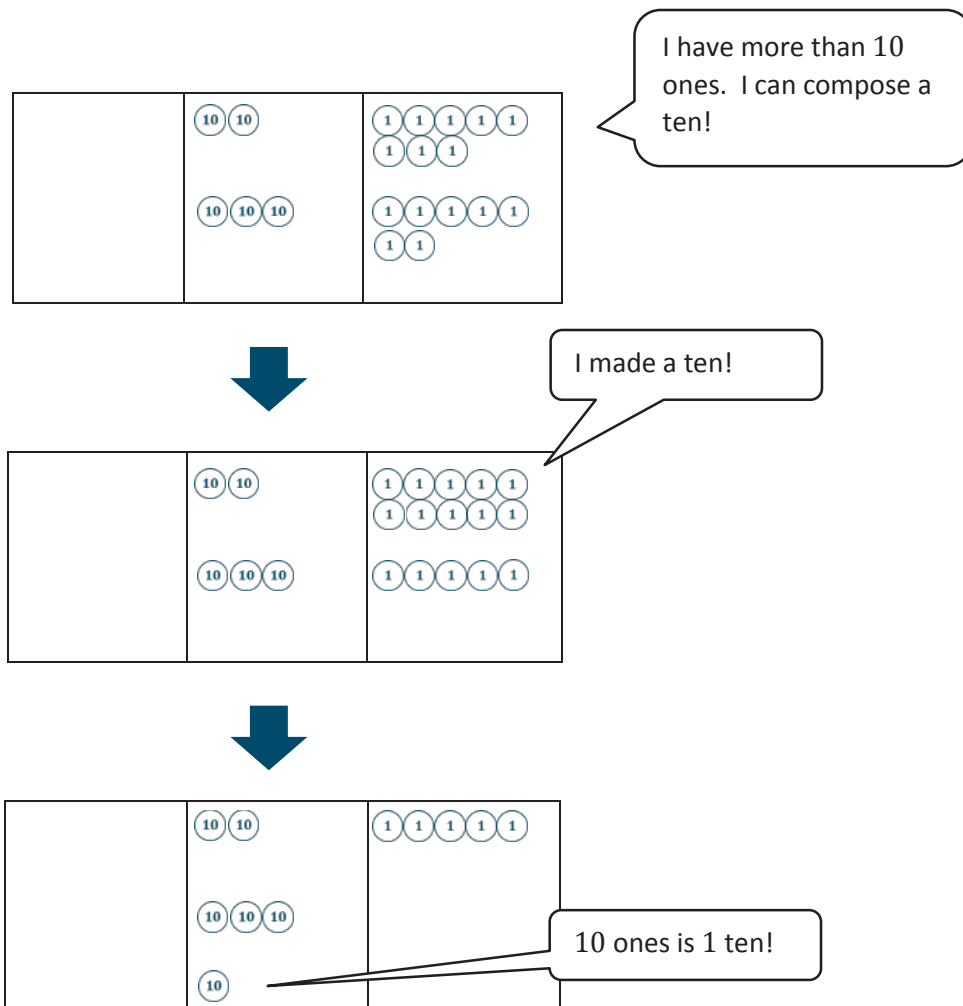


So, $34 + 28 = 62$.

10 ones is 1 ten!

2. Solve using a place value chart.

Marty used 28 toothpicks for his art project, and 37 were left in the box. How many toothpicks were there in all?



$$28 + 37 = 65$$

There were 65 toothpicks in all.

G2-M4-Lesson 7

1. Solve the following problems using the vertical form, your place value chart, and place value disks. Bundle a ten, if needed. Think about which ones you can solve mentally, too!

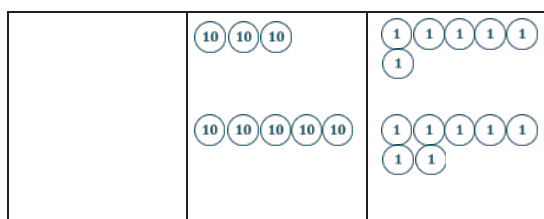
a. $33 + 7 = 40$

I can solve this one mentally! I know 3 ones plus 7 ones is 1 ten, and 30 plus 10 is 40.

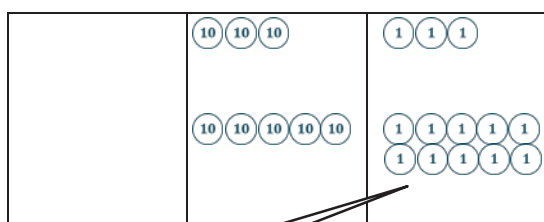
b. $36 + 57 = 93$

I can use my chart and place value disks to solve.

I can write it in vertical form as I model it with my place value disks.



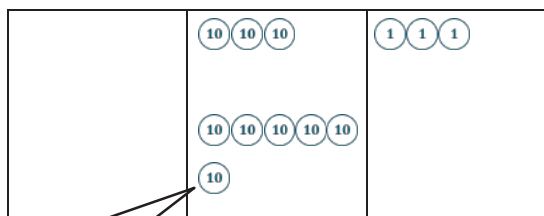
$$\begin{array}{r} 36 \\ + 57 \\ \hline \end{array}$$



$$\begin{array}{r} 36 \\ + 57 \\ \hline 13 \end{array}$$

I made a ten!

I have 13 ones, or 1 ten 3 ones. I show the ten, using new groups below, on the line below the tens place.

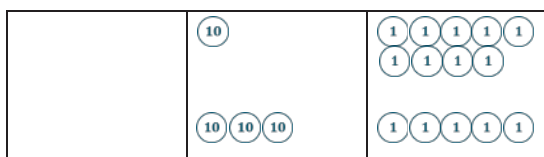


$$\begin{array}{r} 36 \\ + 57 \\ \hline 93 \end{array}$$

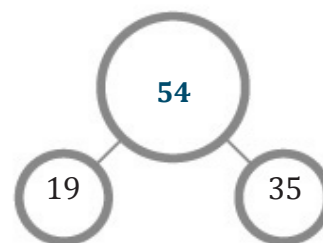
10 ones is 1 ten!

Now I just add the tens! 3 tens plus 5 tens is 8 tens, and 1 more ten is 9 tens. So 36 plus 57 is 93.

2. Add the bottom numbers to find the missing number above it.



$$\begin{array}{r} 19 \\ + 35 \\ \hline 54 \end{array}$$

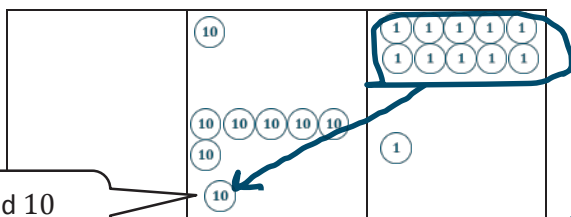
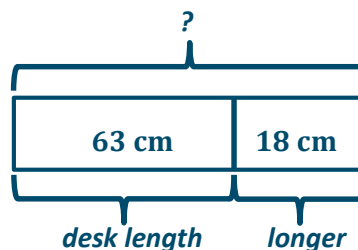
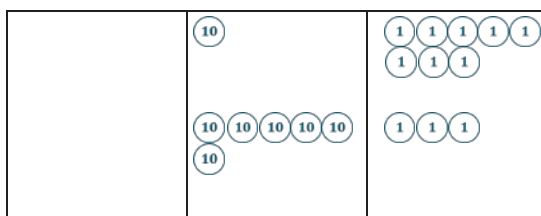


$$\begin{array}{r} 19 + 35 = 54 \\ \swarrow \searrow \\ 1 \quad 34 \end{array}$$

I can solve using my place value disks and vertical form or the make ten strategy!

3. Jen's ribbon is 18 centimeters longer than her desk. The length of her desk is 63 centimeters.

- a. What is the length of Jen's ribbon?

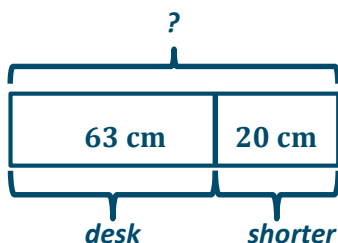


$$\begin{array}{r} 18 \\ + 63 \\ \hline 81 \end{array}$$

I changed 10 ones for 1 ten!

Jen's ribbon is 81 centimeters.

- b. The length of Jen's desk is 20 centimeters shorter than the length of her teacher's desk. How long is her teacher's desk?



$$63 + 20 = 83$$

The teacher's desk is 83 centimeters long.

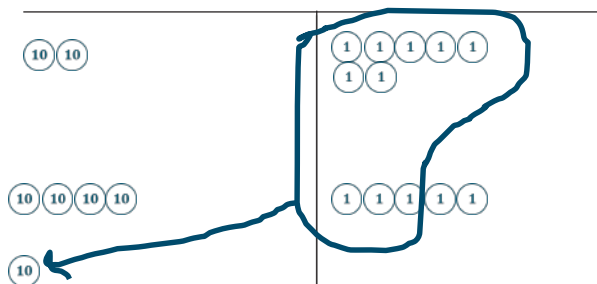
G2-M4-Lesson 8

Solve vertically. Draw and bundle place value disks on the place value chart.

1. $27 + 45 = 72$

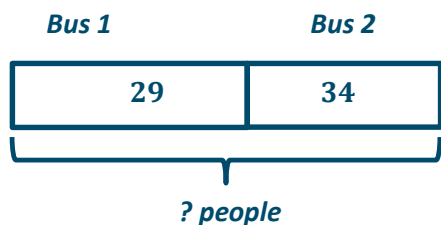
$$\begin{array}{r} 27 \\ + 45 \\ \hline 72 \end{array}$$

I show each step I make with the place value disks vertically using new groups below.



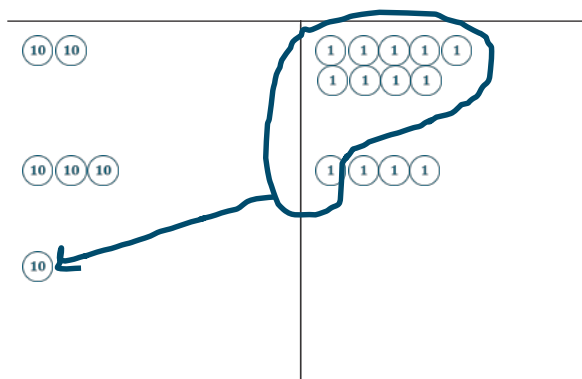
I draw place value disks to show each addend. 7 ones plus 5 ones is 12 ones, or 1 ten 2 ones. I bundle 10 ones to make 1 ten. Now I just add the tens. 2 tens plus 4 tens plus 1 more ten is 7 tens. So 27 plus 45 is 72.

2. Santiago counted the number of people on two buses. Bus 1 had 29 people, and bus 2 had 34 people. How many people were on the two buses?



$$\begin{array}{r} 29 \\ + 34 \\ \hline 63 \end{array}$$

63 people were on the two buses.



G2-M4-Lesson 9

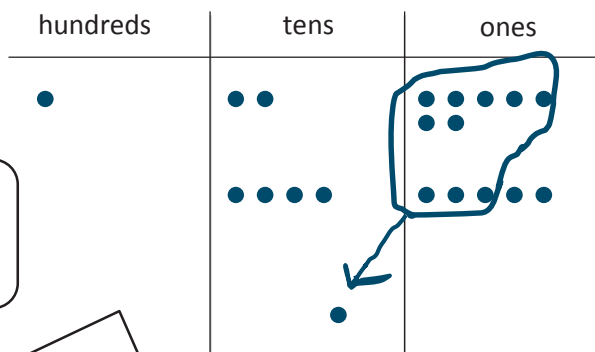
1. Solve using the algorithm. Draw and bundle chips on the place value chart.

$$127 + 45 = 72$$

$$\begin{array}{r} 127 \\ + 45 \\ \hline 172 \end{array}$$

I show each step I make with the chips vertically using new groups below.

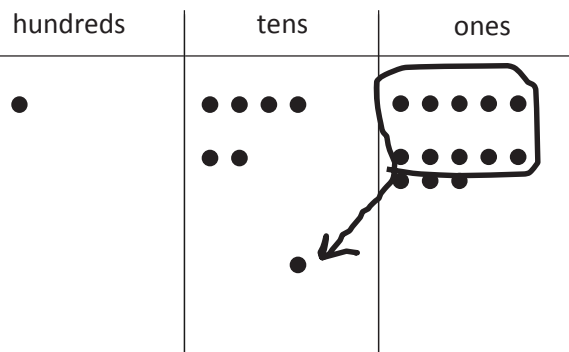
I draw chips to show each addend. 7 ones plus 5 ones is 12 ones, or 1 ten 2 ones. I bundle the 10 ones to make 1 ten. Now I just add the tens. 2 tens plus 4 tens plus 1 more ten is 7 tens. 1 hundred plus 0 hundreds is 1 hundred. So 127 plus 45 is 172.



2. Solve using the algorithm. Write a number sentence for the problem modeled on the place value chart.

I can count to find the first addend: 100, 110, 120, 130, 140, 141, 142, 143, 144, 145. The first addend is 145. Now I count to find the second addend: 10, 20, 21, 22, 23, 24, 25, 26, 27, 28. The second addend is 28.

$$\begin{array}{r} 145 \\ + 28 \\ \hline 173 \end{array}$$



G2-M4-Lesson 10

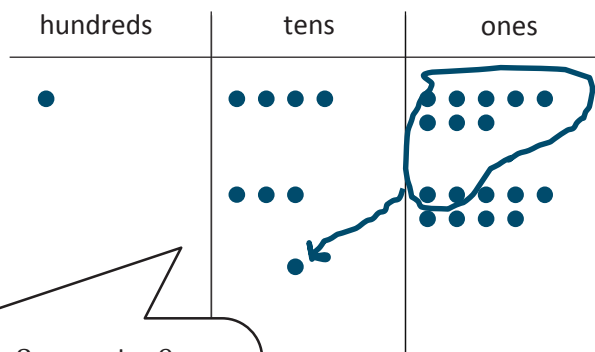
1. Solve using the algorithm. Draw and bundle chips on the place value chart.

$$148 + 39 = 187$$

$$\begin{array}{r} 148 \\ + 39 \\ \hline 187 \end{array}$$

I show each step I make with the chips vertically using new groups below.

I draw chips to show each addend. 8 ones plus 9 ones is 17 ones or 1 ten 7 ones. I bundle the 10 ones to make 1 ten. Now I just add the tens. 4 tens plus 3 tens plus 1 more ten is 8 tens. 1 hundred plus 0 hundreds is 1 hundred. So 148 plus 39 is 187.

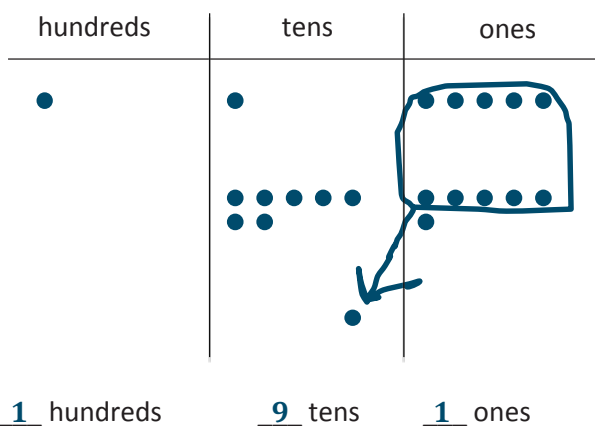


2. Frankie spilled ink on his paper. Can you figure out what problem he was given by looking at his work?

I can count to find the first addend: 100, 110, 111, 112, 113, 114, 115. The first addend is 115. Now I can count to find the second addend: 10, 20, 30, 40, 50, 60, 70, 71, 72, 73, 74, 75, 76. The second addend is 76.

1  = _____

$$115 + 76 = 191$$



G2-M4-Lesson 11

I can use $87 - 7$ to help me solve $87 - 8$. Since the difference in the first problem is 80, the difference in the second problem must be 1 less than 80 because I am only subtracting 1 more.

1. Solve using mental math.

$$7 - 6 = \underline{1} \quad 87 - 6 = \underline{81} \quad 87 - 7 = \underline{80} \quad 87 - 8 = \underline{79}$$

2. Solve using your place value chart and place value disks. Unbundle a ten if needed. Think about which problems you can solve mentally, too!

a. $28 - 7 = \underline{21}$

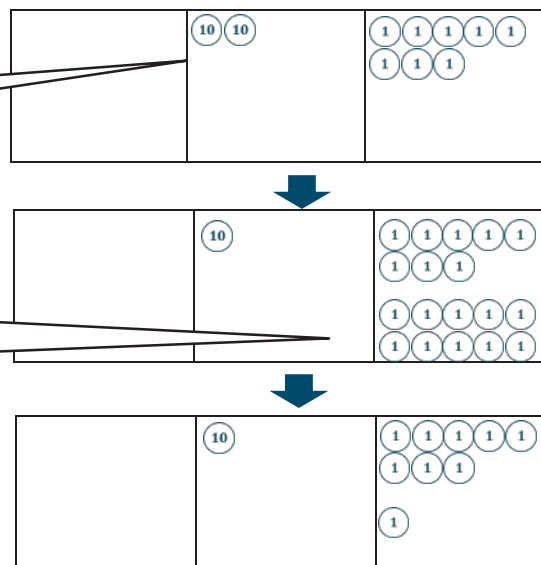
I can solve this one mentally! I can subtract 7 ones from 8 ones. That leaves 2 tens 1 one, 21.

b. $28 - 9 = \underline{19}$

I can use my chart and place value disks to solve this problem.

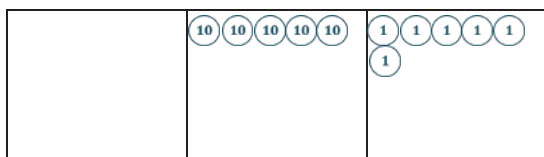
I only need to show 28 because I'm taking a part, 9, from the whole, 28.

I can't subtract 9 ones from 8 ones, so I change 1 ten for 10 ones. Now I have 1 ten 18 ones, so I can subtract 9 ones.

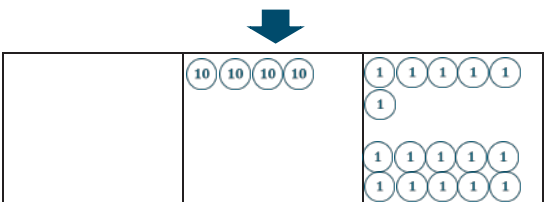


So $28 - 9 = 19$.

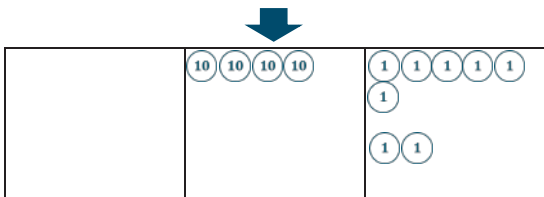
3. Solve $56 - 28$, and explain your strategy.



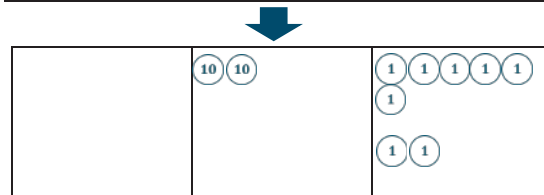
I use my place value disks to show the whole, 56. I see that I can't subtract 8 ones from 6 ones.



So, I decompose 1 ten into 10 ones. Now I have 4 tens 16 ones.



I subtract 8 ones. 8 ones are left.



I subtract 2 tens. 2 tens are left. 2 tens 8 ones equals 28.

$$56 - 28 = 28$$

4. The number of marbles in this jar is marked on the front. Miss Clark took 26 marbles out of the jar. How many marbles are left? Complete the number sentence to find out.



I can solve $49 - 26$ to find how many marbles are left.

$$49 - 26 = 23$$

I can subtract 6 ones from 9 ones; that's 3 ones. And 4 tens minus 2 tens is 2 tens. 2 tens 3 ones equals 23.

G2-M4-Lesson 12

1. Use place value disks to solve the problem.
Rewrite the problem vertically, and record each step.

$$71 - 27$$

$$\begin{array}{r} 71 \\ - 27 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \text{ tens } 11 \text{ ones} \\ - 2 \text{ tens } 7 \text{ ones} \\ \hline \end{array}$$

$$\begin{array}{r} 6 \text{ tens } 11 \text{ ones} \\ - 2 \text{ tens } 7 \text{ ones} \\ \hline 4 \text{ tens } 4 \text{ ones} \end{array}$$

I rewrite the problem in vertical form. Like a detective, I have to look carefully at the whole when subtracting, so I draw a magnifying glass around 71 to see if I need to do any unbundling.

What I do with the disks, I need to do in vertical form.

11 ones $-$ 7 ones = 4 ones.
6 tens $-$ 2 tens = 4 tens.
4 tens 4 ones is 44.

I show the whole, 71, with my place value disks. I don't show 27 because it's already inside 71. When I subtract the part I know, 27, I'll find the missing part.

I can't subtract 7 ones from 1 one, so I need to decompose, or unbundle, a ten.

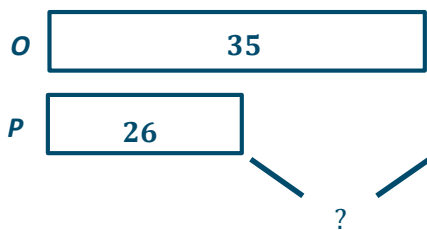
Now I have 6 tens 11 ones. I'm ready to subtract!

2. Some Grade 1 and Grade 2 students voted on their favorite fruit. The table shows the number of votes for each fruit.

Types of Fruit	Number of Votes
Pineapple	26
Mango	18
Apple	15
Orange	35
Peach	43

- a. How many more students voted for orange than pineapple? Show your work.

The tape diagram helps me see that I'm looking for the difference between 35 and 26. I can subtract using the vertical form to find the answer.



$$35 - 26 = ?$$

9 more students voted for orange than for pineapple.

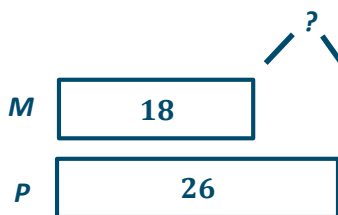
I can't take 6 ones from 5 ones, so I unbundle 1 ten. Now I have 2 tens 15 ones.

15 ones – 6 ones = 9 ones.

$$\begin{array}{r} 2 \text{ } 15 \\ - 2 \text{ } 6 \\ \hline 9 \end{array}$$

- b. How many fewer students voted for mango than for pineapple? Show your work.

The tape diagram helps me see that I'm looking for the difference between 18 and 26.



$$26 - 18 = ?$$

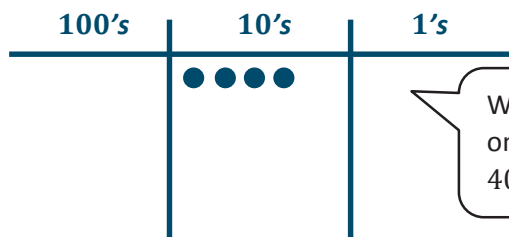
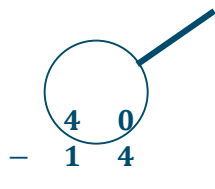
8 fewer students voted for mango than for pineapple.

$$\begin{array}{r} 1 \text{ } 16 \\ - 1 \text{ } 8 \\ \hline 8 \end{array}$$

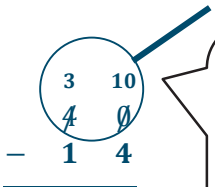
G2-M4-Lesson 13

Solve vertically. Draw a place value chart and chips to model each problem. Show how you change 1 ten for 10 ones, when necessary.

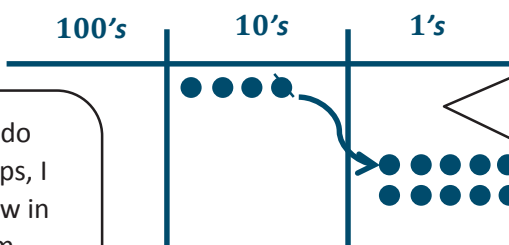
$$40 - 14 = \underline{26}$$



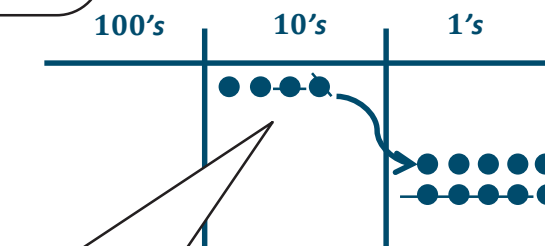
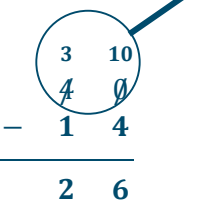
When I'm subtracting, I only draw the whole, 40, with chips.



Whatever I do with my chips, I have to show in vertical form. Now I am ready to subtract!



I can't subtract 4 ones from 0 ones. I need to unbundle a ten. I cross off 1 ten chip and draw 10 ones. Now I have 3 tens 10 ones.



I cross off one chip in the tens place. 3 tens - 1 ten = 2

I cross off chips in the ones place. 10 ones - 4 ones = 6 ones.

G2-M4-Lesson 14

1. Solve by writing the problem vertically. Check your result by drawing chips on the place value chart. Change 1 ten for 10 ones, when needed.

$$140 - 12 = \underline{128}$$

$$\begin{array}{r} 140 \\ - 12 \\ \hline \end{array}$$

I draw the magnifying glass so I remember to set the problem up to subtract.



I draw chips to show the whole, 140, on my place value chart.

$$\begin{array}{r} 3 \quad 10 \\ 140 \\ - 12 \\ \hline \end{array}$$

I can't subtract 2 ones from 0 ones, so I need to unbundle a ten. I show how I decompose 1 ten into 10 ones on my place value chart and in vertical form. Now I have 1 hundred 3 tens 10 ones.



$$\begin{array}{r} 3 \quad 10 \\ 140 \\ - 12 \\ \hline 128 \end{array}$$

Now I'm ready to subtract.
 10 ones – 2 ones = 8 ones.
 3 tens – 1 ten = 2 tens.
 1 hundred – 0 hundreds = 1 hundred.
 1 hundred 2 tens 8 ones is 128.



2. Solve and show your work. Draw a place value chart and chips, if needed.

- a. Ana has 173 marbles. She has 27 more than Rico. How many marbles does Rico have?

A 173

R ?

27 more

This space shows how much more Ana has than Rico.

Since Ana has more, her bar is longer than Rico's.

I know the whole and one part. I can use the vertical form to subtract to find the missing part.

	6	13
1	7	3
<hr/>		
	2	7
<hr/>		
1	4	6

I need to unbundle a ten. Now I have 1 hundred 6 tens 13 ones. I'm ready to subtract.

Rico has 146 marbles.

- b. Rico gives 18 of his marbles to Diana. How many marbles does Rico have left?

146

I can draw a single bar to show the total number of Rico's marbles.

18 gives ? **? left**

Rico gives this part, 18, to Diana.

The other part is what Rico has left.

I can use the vertical form to subtract and solve.

	3	16
1	4	6
<hr/>		
	1	8
<hr/>		
1	2	8

Rico has 128 marbles left.

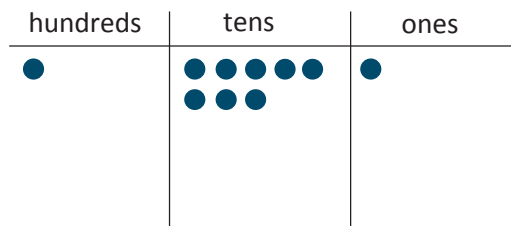
G2-M4-Lesson 15

1. Solve using the vertical form. Show the subtraction on the place value chart with chips. Exchange 1 ten for 10 ones, if necessary.

$$181 - 73$$

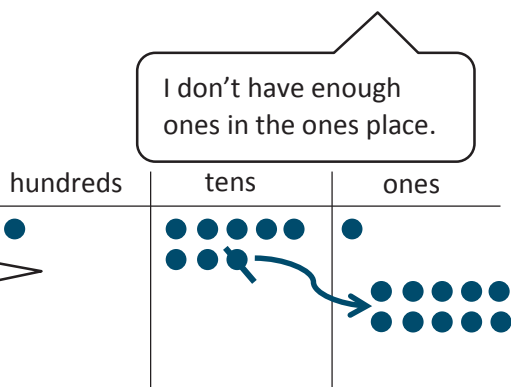
$$\begin{array}{r} 181 \\ - 73 \\ \hline \end{array}$$

Before I begin subtracting in vertical form, I have to get ready to subtract. I need to check each place to be sure I have enough!



$$\begin{array}{r} 181 \\ - 73 \\ \hline \end{array}$$

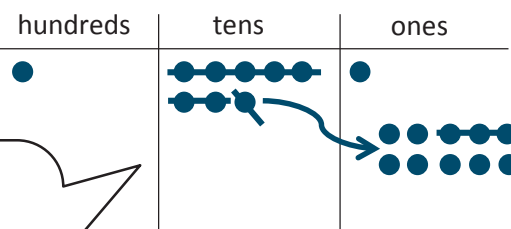
I unbundle a ten as 10 ones. I remember to show this change in vertical form.



I don't have enough ones in the ones place.

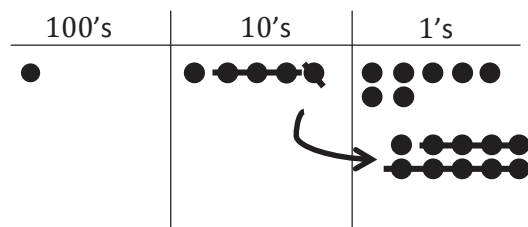
$$\begin{array}{r} 181 \\ - 73 \\ \hline 108 \end{array}$$

I'm ready to subtract.
 11 ones – 3 ones = 8 ones.
 7 tens – 7 tens = 0 tens.
 1 hundred – 0 hundreds = 1 hundred.
 1 hundred 8 ones is 108.



2. Maya solved $157 - 39$ vertically and on her place value chart. Explain what Maya did correctly and what she needs to fix.

$$\begin{array}{r} 157 \\ - 39 \\ \hline 128 \end{array}$$



- a. Maya correctly models the problem on the place value chart. She shows the whole, 157, and then she decomposes 1 ten as 10 ones. She changes the model to show 1 hundred 4 tens 17 ones. After she crosses off 3 tens 9 ones, the model shows the correct answer, 118.
- b. Maya needs to fix the vertical form. She forgot to draw the magnifying glass, which would have reminded her to look carefully to set the problem up for subtraction. She didn't show the change in the tens place, so she subtracted 3 tens from 5 tens, instead of subtracting from 4 tens. That's why she got the wrong answer, 128.

G2-M4-Lesson 16

Solve the following word problems. Use the RDW process.

1. Audrey put 56 beads on a necklace. Some beads fell off, but she still has 28 left. How many beads fell off?

I can draw a single bar to show the total number of beads, 56.

The problem tells me how many beads Audrey has left, 28.

When I know the whole and one part, I have to find the missing part. I can either subtract or count on to find the answer.

$$56 - 28 = \underline{\quad} \text{ or } 28 + \underline{\quad} = 56.$$

$$56 - 28 = \underline{\quad}$$

?
fell off

28
left

One part of that total fell off, but I don't know how many, so I label that with a question mark.

+ 2	56
-----	----

+ 2	28
-----	----

$$56 + 2 = 58$$

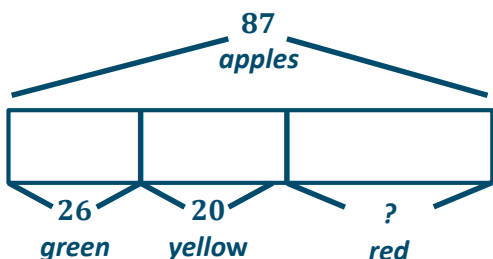
$$28 + 2 = 30$$

$$58 - 30 = 28$$

28 beads fell off.

I can solve whichever way is easiest for me! It's easy to subtract friendly numbers, and I notice that 28 is close to 30. I can add 2 to 28 to get 30. And I have to do the same thing to the other number, so I add 2 to 56. My new easier equation is $58 - 30 = 28$.

2. Farmer Ben picks 87 apples. 26 apples are green, 20 are yellow, and the rest are red. How many apples are red?



$$26 + 20 = 46$$

$$87 - 46 = 41$$

41 apples are red.

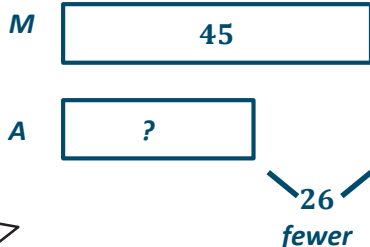
I add the parts I know.

Then I subtract. I can solve mentally. 8 tens - 4 tens is 4 tens. 7 ones - 6 ones is 1 one. 4 tens 1 one is 41.

3. Ava planted 45 flowers in the morning. She planted 26 fewer flowers in the afternoon. How many flowers did she plant altogether?

I draw and label how many flowers Ava planted in the morning.

I know she planted fewer flowers in the afternoon, but I don't know how many, so I draw a shorter bar and label it with a question mark.

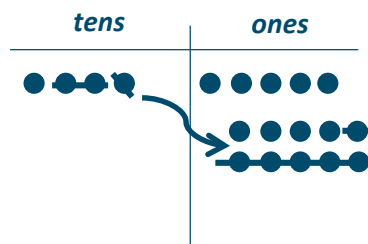
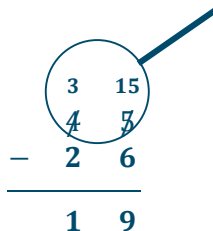


But I do know how many fewer she planted in the afternoon, so I can label this space.

To find how many flowers Ava planted in the afternoon, I can subtract the part, 26, from the whole, 45.

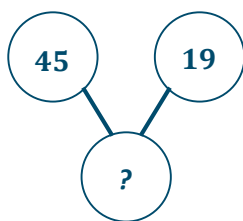
$$45 - 26 = \underline{\quad}$$

I can use the chip model and vertical form to solve.



Ava planted 19 flowers in the afternoon.

To find out how many flowers Ava planted altogether, I add the parts, 45 and 19.



I can use another model to show my work. The number bond shows that I know the two parts. I need to find the whole.

I can use the make ten strategy because 19 is close to 20. I break apart 45 into 44 and 1. Then it's easy!
 $44 + 20 = 64$, so $45 + 19 = 64$.

$$45 + 19 = \underline{64}$$

Ava planted 64 flowers altogether.

G2-M4-Lesson 17

1. Solve mentally.

1 ten more than 8 ones = 18

1 hundred more than 8 ones = 108

1 hundred more than 8 tens = 180

I have to pay attention to the unit. 8 tens equal 80. 1 hundred more than 80 is 180.

$10 + 8 = \underline{18}$

$100 + 8 = \underline{108}$

$100 + 80 = \underline{180}$

$12 \text{ ones} + 2 \text{ ones} = \underline{1} \text{ ten(s)} \underline{4} \text{ one(s)}$

$12 + 2 = \underline{14}$

$12 \text{ tens} + 2 \text{ tens} = \underline{1} \text{ hundred(s)} \underline{4} \text{ tens(s)}$

$120 + 20 = \underline{140}$

Both of these number sentences show $12 + 2$. What's different is the unit. Adding 10 ones makes 1 ten. Adding 10 tens makes 1 hundred.

2. Solve.

7 ones + 8 ones = 1 ten 5 ones

$7 + 8 = \underline{15}$

7 tens + 8 tens = 1 hundred 5 tens

$70 + 80 = \underline{150}$

15 tens is the same as 150. I can show 15 tens on a place value chart. When I circle 10 tens, I make a hundred, and there are 5 tens left.

3. Fill in the blanks. Then, complete the addition sentence.

$54 \xrightarrow{+6} \underline{60} \xrightarrow{+40} \underline{100} \xrightarrow{+10} \underline{110} \xrightarrow{+10} \underline{120} \xrightarrow{+100} \underline{220}$

$54 + \underline{166} = \underline{220}$

First, I add 6 to make a ten, 60. Then I add 40 to make a hundred. It's easy to add on 2 more tens and a hundred to make 220.

G2-M4-Lesson 18

1. Solve using your place value chart and place value disks.

$35 + 76 = \underline{111}$

$36 + 86 = \underline{122}$

36 is one more than 35, and 86 is 10 more than 76.

These problems are very similar. Just from looking at the tens and ones, I know that my second answer will have 1 more ten and 1 more one than the first answer.

2. Circle the statements that are true as you solve the problem using place value disks.

$136 + 58$

I change 10 ones for 1 ten.

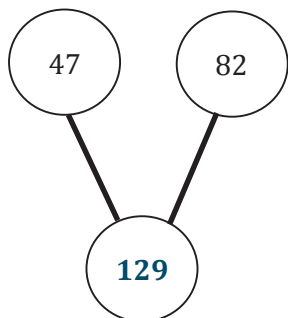
I change 10 tens for 1 hundred.

The total of the two parts is 184.

The total of the two parts is 194.

I can set up this problem with place value disks and add like units. 6 ones and 8 ones are 14 ones. I can change 10 ones for 1 ten. I'll have 4 ones left over. Then, 3 tens + 5 tens + 1 ten equals 9 tens. 1 hundred + 9 tens + 4 ones = 194.

3. Solve the problem using your place value disks, and fill in the missing total. Then, write an addition sentence that relates to the number bond.

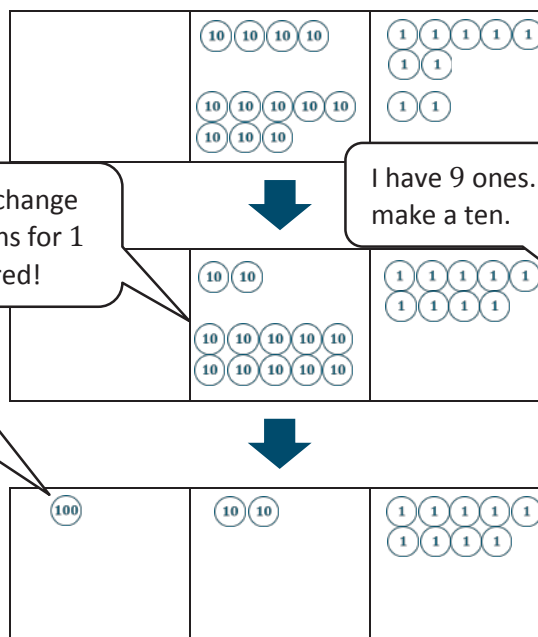


I can change 10 tens for 1 hundred!

Now I have 1 hundred 2 tens 9 ones, 129.

Addition sentence:

$\underline{47 + 82 = 129}$



I have 9 ones. I can't make a ten.

G2-M4-Lesson 19

1. Solve the following problems using the vertical form, your place value chart, and place value disks.
- Bundle a ten or hundred, if needed.

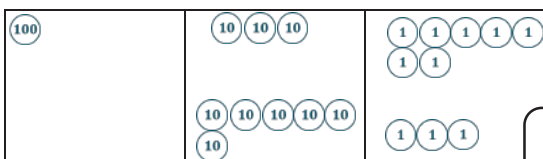
a. $24 + 69 = \underline{93}$

I can solve this one mentally! 69 is close to 70, so I can think $24 + 70 = 94$. Then, I can just subtract 1, and the answer is 93.

b. $137 + 63 = \underline{200}$

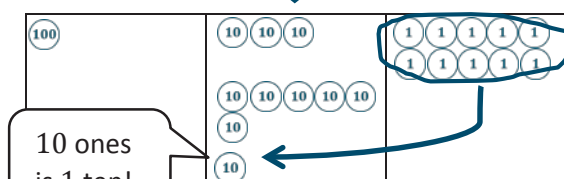
I can use my chart and place value disks to solve.

I write it in vertical form as I model it with my place value disks.



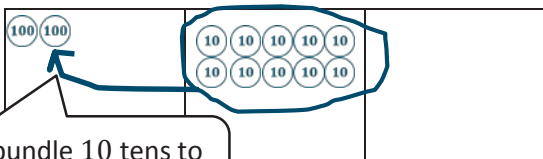
I bundle 10 ones and make a ten!

$$\begin{array}{r} 137 \\ + 63 \\ \hline \end{array}$$



$$\begin{array}{r} 137 \\ + 63 \\ \hline 10 \end{array}$$

I show the ten using new groups below, on the line below the tens place.



$$\begin{array}{r} 137 \\ + 63 \\ \hline 100 \end{array}$$

Now I add the tens. 3 tens plus 6 tens plus 1 ten is 10 tens. I can bundle again to make 1 hundred! I show the hundred using new groups below again.

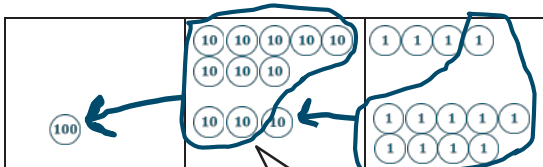


$$\begin{array}{r} 137 \\ + 63 \\ \hline 200 \end{array}$$

Last, I add the hundreds. There are 2 hundreds.

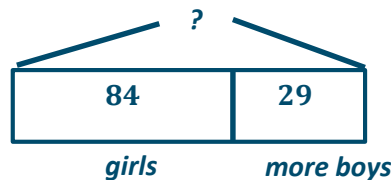
2. Eighty-four girls attended swim school. Twenty-nine more boys attended than girls.

- a. How many boys attended swim school?



$$\begin{array}{r} 84 \\ + 29 \\ \hline 113 \end{array}$$

Or I could use my place value disks to set up for addition with renaming. I can show 84 and 29 with disks and solve vertically.

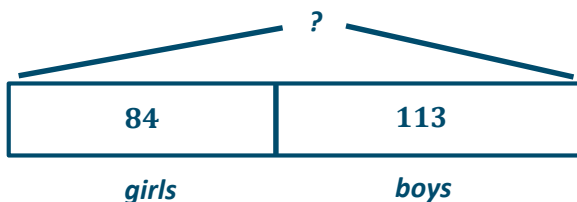


I can draw a tape diagram to represent the story. I can use the make ten strategy to solve! (See below.)

$$\begin{array}{r} 84 + 29 = \underline{\quad} \\ 83 \quad 1 \\ 83 + 30 = 113 \end{array}$$

113 boys attended swim school.

- b. How many boys and girls attended swim school?



197 boys and girls attended swim school.

$$\begin{array}{r} 113 \\ + 84 \\ \hline 197 \end{array}$$

Now that I know the number of boys, I can add the girls and boys together to find the total. I can show my work using the vertical method.

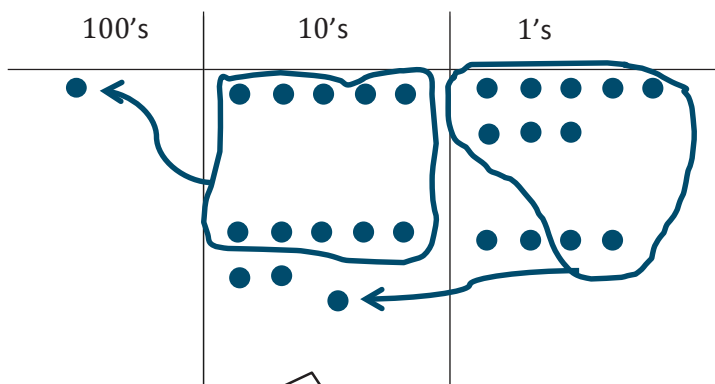
G2-M4-Lesson 20

Solve vertically. Draw chips on the place value chart and bundle, when needed.

1. $58 + 74 = \underline{132}$

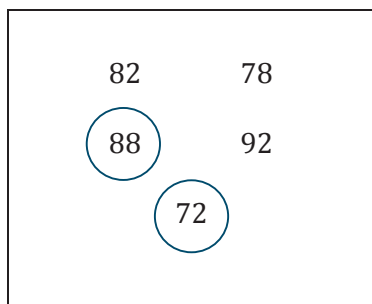
$$\begin{array}{r} 58 \\ + 74 \\ \hline 132 \end{array}$$

I show each step I make with chips vertically using new groups below.



I draw chips to show each addend. 8 ones plus 4 ones is 12 ones, or 1 ten 2 ones. I bundle 10 ones to make 1 ten. Now I add the tens. 5 tens plus 7 tens plus 1 more ten is 13 tens. I can bundle again! 10 tens makes 1 hundred. So, 13 tens is 1 hundred 3 tens.

2. For the box below, find and circle two numbers that add up to 160.



If I add 88 and 72, I can add 8 ones and 2 ones, which is 10 ones. I can bundle ten ones to make 1 ten! Then, I can add 8 tens plus 7 tens plus 1 ten to get 16 tens, or 160.

I see the trap; if I forgot to add another ten, I might have chosen 88 and 82 or 78 and 92.

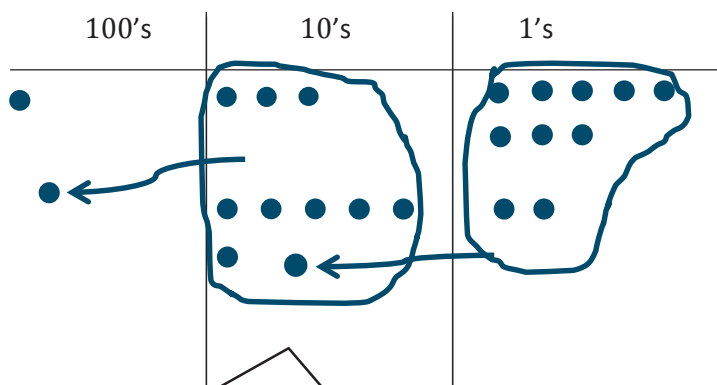
G2-M4-Lesson 21

Solve vertically. Draw chips on the place value chart and bundle, when needed.

1. $138 + 62 = \underline{200}$

$$\begin{array}{r} 138 \\ + 62 \\ \hline 200 \end{array}$$

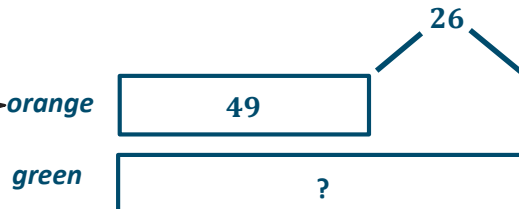
My model matches the vertical method. I bundled twice, and I can show the new units with new groups below.



Renaming the tens is just like renaming ones. I have to look for 10 of a unit to make the next higher value unit. So, 10 ones make 1 ten, and 10 tens make 1 hundred!

2. The orange team scored 26 fewer points than the green team. The orange team scored 49 points.
a. How many points did the green team score?

I can draw a comparison tape diagram to solve.



The green team scored 75 points.

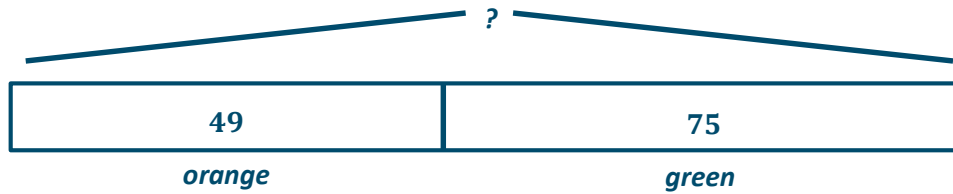
$$49 + 26 = \underline{\quad ? \quad}$$

$$50 + 26 = 76$$

$$76 - 1 = 75$$

I don't need to solve with chips because 49 is close to 50. I can add 50 and 26, which makes 76. Then, I can subtract 1 since 49 is 1 less than 50. I can use the same strategy for Part (b).

- b. How many points did the orange and green teams score altogether?



$$49 + 75 = \underline{\quad ? \quad}$$

$$50 + 75 = 125$$

$$125 - 1 = 124$$

The orange and green team scored 124 points altogether.

G2-M4-Lesson 22

1. Look to make 10 ones or 10 tens to solve the following problems using place value strategies.

$7 + 6 + 3 + 4 = \underline{20}$	$37 + 16 + 43 + 54 = \underline{150}$	$86 + 34 + 33 + 67 = \underline{220}$
----------------------------------	---------------------------------------	---------------------------------------

This is similar to the first problem, except now there are tens. When I add 37 plus 43, I know 7 ones plus 3 ones equals 10 ones, or 1 ten. Then, 3 tens plus 4 tens equals 7 tens. 7 tens + 1 ten = 8 tens, or 80.

I can group 86 and 34 together because 6 and 4 make 10. 8 tens plus 3 tens equals 11 tens. When I add 1 more ten, I get 12 tens, which is 120. $120 + 100 = 220$.

2. The table shows the top five soccer teams and their total points scored this season.

Teams	Points
Red	48
Yellow	39
Green	52
Blue	41
Orange	42

- a. How many points did the yellow, orange, and blue teams score together?

$$39 + 42 + 41 = \underline{122}$$

Since 9 and 1 make ten, I added 39 and 41 first. I know that $30 + 40 = 70$, and $70 + 10 = 80$. Then, $80 + 42 = 122$.

The yellow, orange, and blue teams scored 122 points.

- b. Which two teams scored a total of 90 points?

$$48 + 42 = 90$$

The red and orange teams scored 90 points.

I can look for a total of 9 tens. 4 tens plus 4 tens is 8 tens, which is only 80. But, don't forget the ones! 8 ones plus 2 ones equals 10 ones, or 1 ten. So 8 tens and 1 more ten is 9 tens, or 90.

G2-M4-Lesson 23

1. Solve using number bonds to subtract from 100.

$115 - 80 = \underline{35}$

I can make a number bond to break apart 115. I can take out the 100 from 115. Then, 15 are left.

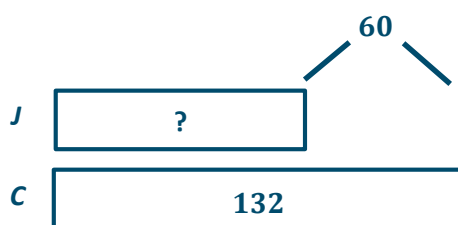
$100 - 80 = 20$
 $20 + 15 = 35$

$147 - 50 = \underline{97}$

$100 - 50 = 50$
 $50 + 47 = 97$

After I take out 100, I can subtract 50 easily. $100 - 50 = 50$. I can look at my number bond and add back the rest, so $50 + 47 = 97$.

2. Jana sold 60 fewer candles than Charlotte. Charlotte sold 132 candles. How many candles did Jana sell? Solve using a number bond.



My tape diagram shows that I don't know how many candles Jana sold, but I know that Charlotte sold 60 more candles than Jana.

$132 - 60 = 72$

$100 - 60 = 40$
 $40 + 32 = 72$

I can break apart 132 so I can subtract from the hundred. This is a good strategy since it's easy to solve $100 - 60 = 40$. Then, I can add back the other part, so $40 + 32 = 72$.

Jana sold 72 candles.

G2-M4-Lesson 24

1. Solve using mental math. If you cannot solve mentally, use your place value chart and place value disks.

$47 - 7 = \underline{40}$

$47 - 8 = \underline{39}$

$147 - 47 = \underline{100}$

$147 - 48 = \underline{99}$

I can use $147 - 47$ to help me solve $147 - 48$. Since the difference in the first problem is 100, the difference in the second problem must be 1 less than 100 because I am only subtracting 1 more.

2. Solve using your place value chart and place value disks. Unbundle the hundred or ten when necessary. Circle what you did to model each problem.

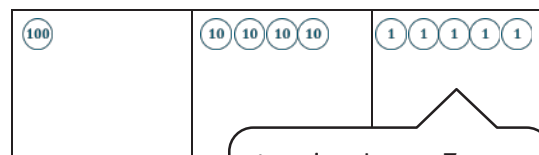
$145 - 87 = \underline{58}$

I unbundled the hundred.

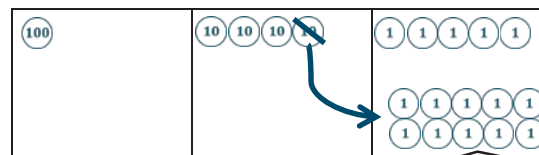
☒ Yes ☐ No

I unbundled a ten.

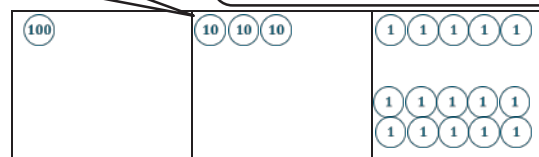
☒ Yes ☐ No



I can't subtract 7 ones from 5 ones. I need to decompose a ten.

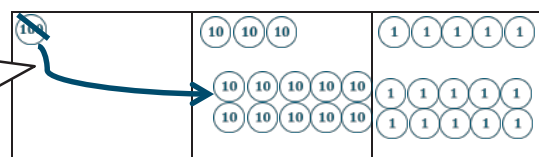


Now I have 15 ones. That's enough to subtract 7 ones.

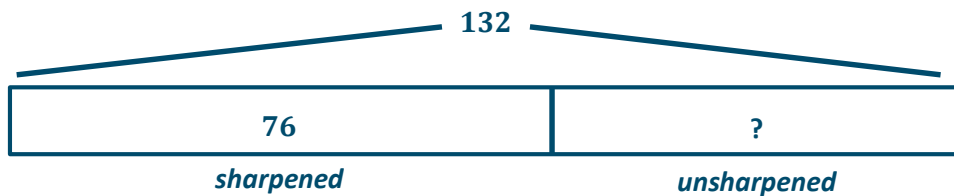


I only have 3 tens. That's not enough to subtract 8 tens! I need to unbundle the hundred.

Now I have 13 tens and 15 ones. I am ready to subtract!
 $13 \text{ tens} - 8 \text{ tens} = 5 \text{ tens}.$
 $15 \text{ ones} - 7 \text{ ones} = 8 \text{ ones}.$
 5 tens 8 ones is 58.



3. 76 pencils in the basket are sharpened. The basket has 132 pencils. How many pencils are not sharpened?



My tape diagram shows that 132 is the total. I know that one part is 76 sharpened pencils. I am solving for the number of pencils that are not sharpened. That's my unknown.

$$132 - 76 = ?$$

$$76 \xrightarrow{+4} 80 \xrightarrow{+20} 100 \xrightarrow{+32} 132$$

56 pencils are not sharpened.

I can use the arrow way to find the missing part. I can start at 76 and add 4 to get to a friendly number, 80. Then, I can add 20 to get to 1 hundred. Then, 32 more is 132. So, $20 + 32 + 4 = 56$.

G2-M4-Lesson 25

1. Solve the following problems using the vertical form, your place value chart, and place value disks. Unbundle a ten or hundred when necessary. Show your work for each problem.

$173 - 87 = \underline{86}$

I draw my magnifying glass around the total, so I look closely at the whole number.

What I do with disks, I need to do in the vertical form.

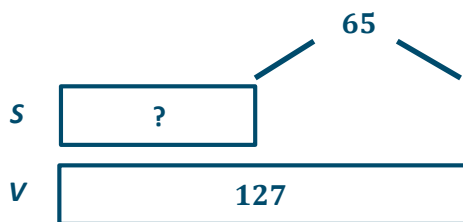
I only have 6 tens. That's not enough to subtract 8 tens. I can change 1 hundred for 10 tens.

Now I have 16 tens and 13 ones. I am ready to subtract!
 13 ones – 7 ones = 6 ones.
 16 tens – 8 tens = 8 tens.
 8 tens 6 ones is 86.

I can't subtract 7 ones from 3 ones. I need to unbundle a ten.

Now I have 13 ones. That's enough to subtract 7 ones.

2. Vazyl has \$127. He has \$65 more than Sergio. How much money does Sergio have?



$$127 - 65 = ?$$

$$\begin{array}{r} 127 \\ - 65 \\ \hline 62 \end{array}$$

I can use the vertical method to figure out how much money Sergio has. I only have to unbundle the hundred because there are enough ones to subtract.

$$7 \text{ ones} - 5 \text{ ones} = 2 \text{ ones.}$$

$$12 \text{ tens} - 6 \text{ tens} = 6 \text{ tens.}$$

$$6 \text{ tens } 2 \text{ ones is } 62.$$

Sergio has 62 dollars.

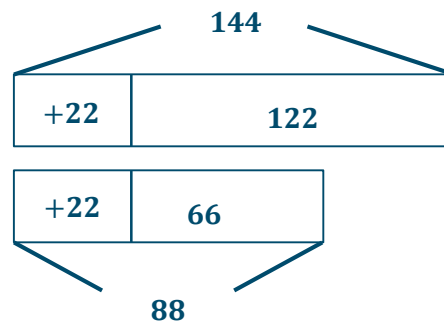
3. Which problem will have the same answer as $122 - 66$? Show your work.

- a. $144 - 55$
- b. $126 - 62$
- c. $166 - 22$
- d. $144 - 88$

$$\begin{array}{r} 122 \\ - 66 \\ \hline 56 \end{array}$$

I can use the vertical form to solve $122 - 66$.

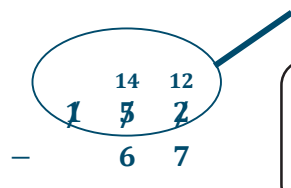
But I also know another strategy. If I add 22 to both numbers, the difference doesn't change. So, $122 + 22 = 144$. And $66 + 22 = 88$. That means $144 - 88 = 56$. I remember this; it's called compensation!



G2-M4-Lesson 26

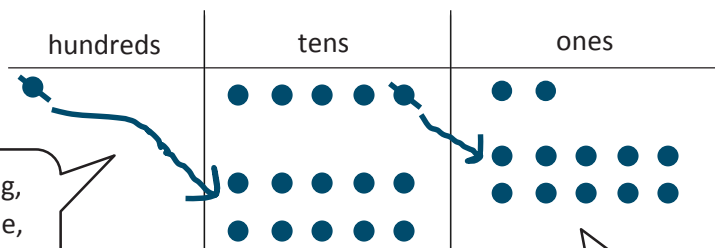
Solve vertically. Draw chips on the place value chart. Unbundle when needed.

$$152 - 67 = \underline{85}$$



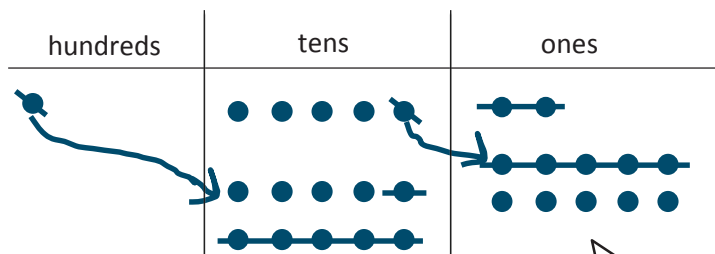
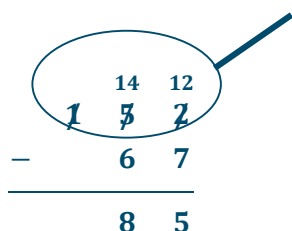
When I'm subtracting, I only draw the whole, 152, with chips.

Whatever I do with my chips, I have to show in the vertical form. I unbundled a ten and a hundred, so now I have 14 tens 12 ones. Now, I am ready to subtract!



I can't subtract 6 tens from 4 tens. I need to unbundle a hundred. I can change 1 hundred for 10 tens.

I can't subtract 7 ones from 2 ones. I need to unbundle a ten. I can change 1 ten for 10 ones.



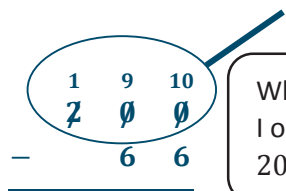
I cross out 6 chips in the tens place. 14 tens minus 6 tens is 8 tens.

I cross out 7 chips in the ones place. 12 ones minus 7 ones is 5 ones.

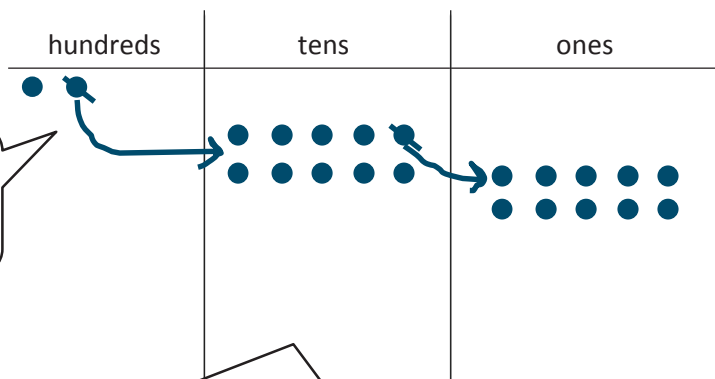
G2-M4-Lesson 27

Solve vertically. Draw chips on the place value chart. Unbundle when needed.

$$200 - 66 = \underline{134}$$

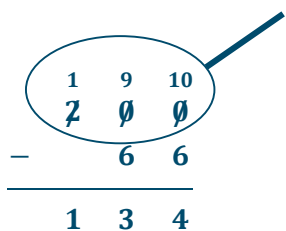


When I'm subtracting, I only draw the whole, 200, with chips.

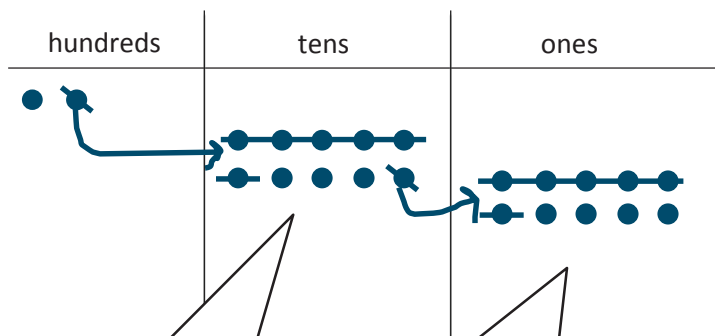


Whatever I do with my chips, I have to show in the vertical form. I can unbundle 200 in one step! Now I have 1 hundred 9 tens 10 ones. I am ready to subtract!

Sometimes when I subtract, I know that both the tens and the ones are going to need more. I can change 1 hundred for 10 tens and then change a ten for 10 ones.



I still have 1 hundred left!



I can check to make sure my answer is correct by adding the two parts back together. So, $134 + 66 = 200$. That's the whole!

I can cross out chips in the tens place. 9 tens minus 6 tens is 3 tens.

I can cross out chips in the ones place. 10 ones minus 6 ones is 4 ones.

G2-M4-Lesson 28

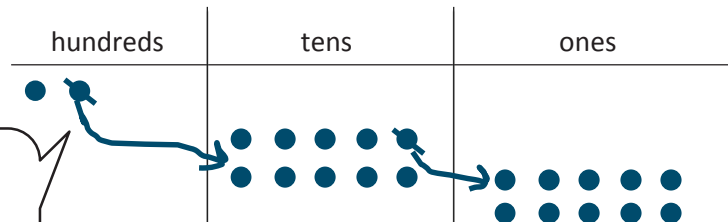
1. Solve vertically. Draw chips on the place value chart. Unbundle when needed.

$$200 - 108 = \underline{92}$$

$$\begin{array}{r} 1 \ 9 \ 10 \\ 2 \ 0 \ 0 \\ - 1 \ 0 \ 8 \\ \hline \end{array}$$

When I'm subtracting, I only draw the whole, 200, with chips.

Whatever I do with my chips, I record the change in the written subtraction. I am ready to subtract!

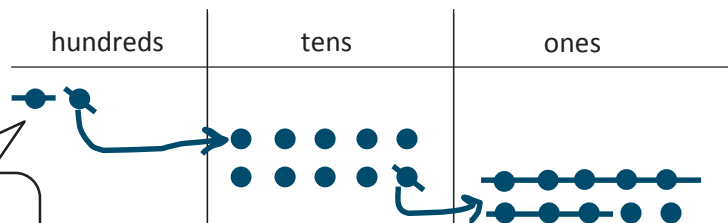


I can rename 200 as 1 hundred 9 tens 10 ones in just one step!

$$\begin{array}{r} 1 \ 9 \ 10 \\ 2 \ 0 \ 0 \\ - 1 \ 0 \ 8 \\ \hline 9 \ 2 \end{array}$$

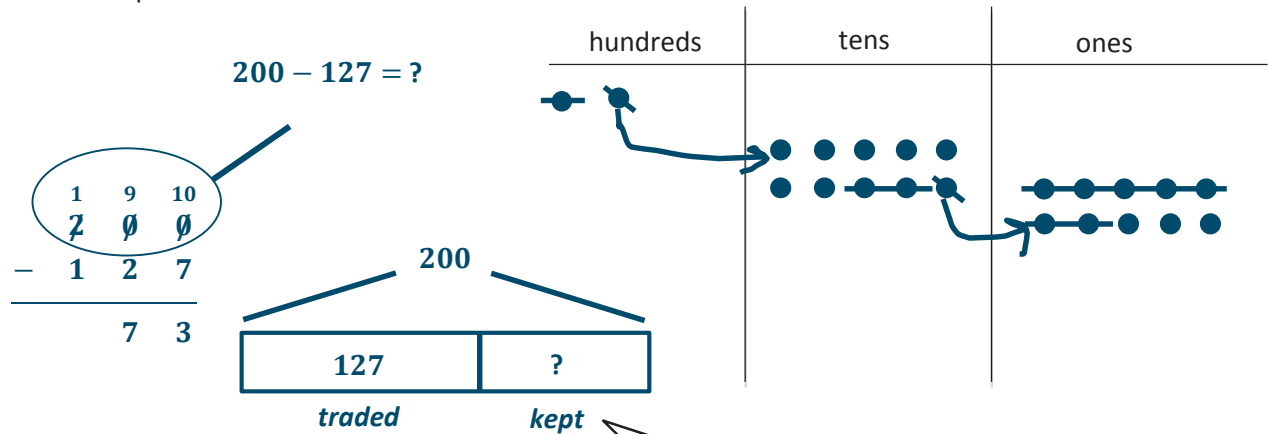
I have to take away 1 hundred, so there are 0 hundreds left.

I have 9 tens, and I don't have to take away any!



I can cross out chips in the ones place. 10 ones minus 8 ones is 2 ones.

2. Harry collected 200 baseball cards. He traded 127 of them and kept the rest. How many baseball cards did he keep?



Harry kept 73 baseball cards.

When I know the whole and one part, I can subtract to find the answer.

My tape diagram shows the part, 127, and the whole, 200. I don't know how many baseball cards Harry kept, so I put a question mark there; it's my unknown.

G2-M4-Lesson 29

1. Add like units, and record the totals below.

6 tens + 5 tens =
11 tens, or 1
hundred 1 ten.

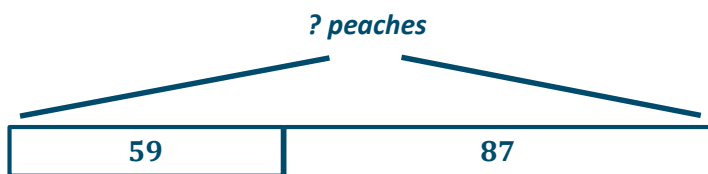
$$\begin{array}{r}
 1 \ 6 \ 7 \\
 + \quad 5 \ 2 \\
 \hline
 1 \ 0 \ 0 \\
 1 \ 1 \ 0 \\
 + \quad \quad 9 \\
 \hline
 2 \ 1 \ 9
 \end{array}$$

Here, I add the hundreds, then tens, and then ones. If I added starting with the ones, the totals would still be the same because I am adding the same parts!

$$\begin{array}{r}
 1 \ 4 \ 4 \\
 + \quad 5 \ 8 \\
 \hline
 1 \ 2 \\
 9 \ 0 \\
 + \ 1 \ 0 \ 0 \\
 \hline
 1 \\
 \hline
 2 \ 0 \ 2
 \end{array}$$

I add all the ones, tens, and hundreds. Look, there are 10 tens! That's the same as 1 hundred 0 tens. I record the hundred on the line.

2. Dana counted 59 peaches on one tree and 87 peaches on another tree. How many peaches were on both trees? Add like units and record the totals below to solve.



$$\begin{array}{r}
 5 \ 9 \\
 + \quad 8 \ 7 \\
 \hline
 1 \ 3 \ 0 \\
 + \quad 1 \ 6 \\
 \hline
 1 \ 4 \ 6
 \end{array}$$

146 peaches were on both trees.